Delaware Economic Development Office dedo.delaware.gov Innovation@work.

Non-ionic emulsifiers

Description of Technology: This invention relates to non-ionic emulsifiers based on fatty acid esters of polyalkoxylated polyhydric alcohols as fundamental constituents, and to the production and use thereof.

Patent Listing:

1. **US Patent No. 6,063,954**, Issued May 16, 2000, "Non-ionic emulsifiers"
http://patft.uspto.gov/netacgi/nph-Parser?Sect2=PTO1&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&d=PALL&RefSrch=yes&Query=PN%2F6063954

Market Potential: Non-ionic emulsifiers for the stabilisation of disperse systems have already been known for a long time in the literature. Apart from fatty alcohol- and alkylphenol alkoxylates of linear structure, emulsifiers are known which are based on polyhydric alcohols esterified with fatty acids, such as glycerol, pentaerythritol, sorbitol and secondary products thereof (e.g. sorbitan and its isomers; see HOUBEN-WEYL), and which are characterised in that stable emulsions can be produced using smaller amounts of emulsifier than when the linear types are used. The fatty acids in these emulsifiers may be saturated or unsaturated.

The object of the present invention is therefore to provide emulsifiers which do not exhibit the usual disadvantages and which also enable very smooth surfaces to be produced, with a good state of the covering lacquer.

This object is achieved by non-ionic emulsifiers of the type cited at the outset, which are characterised in that at least two fundamental constituents are linked to each other by the reaction of hydroxyl groups with a polyisocyanate, with the formation of urethane bonds. Advantageous forms of these emulsifiers are given in the subsidiary claims.

Benefits:

- Enables very smooth surfaces to be produced

Applications:

- Chemicals

Contact: Ken Anderson
Director, Entrepreneurial & Small Business Support, Delaware Economic Development Office (DEDO)
Carvel State Building, 820 French Street, Wilmington, DE, 19801
Phone: (302) 577-8496, Fax: (302) 577-8499, Email: Kenneth.R.Anderson@state.de.us